

## PHASE 1:

Starter (Bellwork, POD, Warmup, etc.)

Time Spent 5-7 minutes

Teacher Does	Student Does
Display on smart board a graph with time vs temperature. Ask students the following: <ul style="list-style-type: none"> <li>• What can you tell me about this graph?</li> <li>• What was happening from 12 to 3?</li> <li>• Predict what will happen at 8pm. Where will the graph be?</li> </ul>	Think-pair-share Call on 2-3 students for each question randomly. They can share one thing they talked about in their group. The other students you call on agree, disagree, or add to the answer shared previously.

Anticipatory Set, Objective, Purpose, Standard

Time Spent 3-5 minutes

Teacher Does	Student Does
Pose the learning targets for the day: <ul style="list-style-type: none"> <li>• I will use a graph to answer questions about a story.</li> <li>• I will create graphs to match a story.</li> <li>• I will write a story to match the graph.</li> </ul> Display on Chart Paper.	Partners tell one another what they are going to learn. Randomly call on students to tell you what they are going to learn.

Input, Instruction, Modeling, Checking for Understanding Time Spent **25 minutes**

Teacher Does	Student Does
<ol style="list-style-type: none"> <li>1. Hand out blank paper or whiteboards.</li> <li>2. Explain that you are going to walk from one side of the room to the other. It is their job to represent this walk on their graph.</li> <li>3. Ask, "What do you need to know before I start?"</li> <li>4. "How are you thinking about labeling the graph?"</li> <li>5. Draw the axis for the first graph.</li> <li>6. Walk the graph at least two times. Allow students time to draw what they think you walked. Walk a third time for them to check.</li> <li>7. Model a think aloud and draw the graph in front of them correctly. Have one of us model the walk as you draw it.</li> <li>8. Explain you will walk a new walk. Have students try to</li> </ol>	Students talk with their work group what they would need to know and how they would label the graph. (Observers: copy what the students' graphs look like for data. Do they change them based on their partner's work or what is addressed during whole group?) Students copy the graph down with the correct labeling. Students can talk with one another and draw the graph.  If their graph is wrong, they need to redraw it. (Observers, check if students are redrawing it. If not, note names)  Students try to draw the new one. Share with their group their drawing and try to figure out what the graph should look like. Display their results under doc cam (2 only).

<p>draw their graph and axis.</p> <p>9. Scan the room for common mistakes. Choose those (and one that looks right) to focus on (2-3 examples total).</p> <p>10. Discuss their answers. Use doc camera to display some student answers. Choose students wisely to show misconceptions and model their graph through a walk. If they don't get it, model the first part, and graph that part. See if they can draw the rest.</p>	
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## PHASE 2:

## Guided Practice

Time Spent 15 minutes

Teacher Does	Student Does
<p>Display a graph for the students. Have them discuss what they think how they would model this walk.</p> <p>Put students in groups of 3-4. Take them out to the bball court and try to model the walk.</p> <p>Put the graph on chart paper. Bring blue tape to tape up the chart paper on the handball wall.</p> <p>NOTE: We used the handball court instead, since it already had the white lines.</p>	<p>Students talk with one another about how they should this model this walk. This should include speed, time spent stopped, etc.</p> <p>In groups, try to model the walk. They may cheat to look at another group to get ideas.</p> <p>(Observers: graph what the students in your group walk)</p> <p>Raise hands when they are ready to show.</p>

## PHASE 3:

## Independent Practice

Time Spent \_\_\_\_\_

Teacher Does	Student Does
<p>This will be done on Day 2.</p> <p>See Extension below (after "Preparation for Dismissal")</p>	

## Closure/Reflection

Time Spent 5 min

Teacher Does	Student Does
<p>Bring students back in the classroom. Ask students to identify which parts of the lesson went with each learning target.</p>	<p>Students think for one minute, rereading the learning target. They share with their AB partner. If called on (with random cards),</p>

	they share what their partner said.
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Preparation for Dismissal

Time Spent 3-5 minutes

Teacher Does	Student Does
Hand out student reflection form (1/2 sheet). Collect this and their graphs from Phase I.	Students fill out the reflection form. They turn these in separately from their work, so that they are anonymous.

**Day 2:**

Warm up with teacher walking another graph and students drawing it (from Day 1).

1. Extend to story problems, having students read a story and determine which graph best represents the story.

2. Have students write a story for a graph.

Guided Practice: S/he reads the story to their AB partner and the partner draws what s/he thinks the story represents. The pair discusses the results and edits if necessary.

Bring back to RTQ on SDAP 1.4. Give students 2-3 sample problems to try independently and discuss whole group.

**Changes based on RL #1:**

After the first walk, the students were lost. However, after going over the first walk, they were much more successful with the second walk. NOTE: There was an additional walk inserted between walk #1 and #2. This was not part of the original lesson, but necessary. For Lesson #2, use 3 teacher walks instead of 2.

The students are very “stuck” on wanting to put in numbers for the graphs. Also, some students had the labeling wrong. Make sure to monitor and have AB partners check each other so that what we are graphing makes sense.

Outside activity was fine. Need another graph for students to try. Perhaps start at the finish and then walk towards the start???

**Changes based on RL #2:**

This group took a long time to get going. Normally the class is very verbal, but they were “freaked out”. Warn students ahead of time (day before) so they are prepared. There was an extreme difference of participation between the West side and East side of the room.

Take into consideration the importance of selecting groups.

Adding the extra teacher walk was great! Many more students were then willing and able to do the last two.

Adding the extra outside walk was good for differentiating. Groups who were done with the first walk could go to the other side of the handball court and try the second (and more difficult walk). Students struggling with the first walk then had more time to figure it out.

Extensions: Have students come up and do a “Teacher Walk”, with the rest of the group using white boards to graph it.

Intervention: Tell a story, and have the students draw a graph for it.

**Something that’s missing:** We didn’t hear the two teachers use consistent language. Need to develop key words for the lessons so that the students are prepared for their work in the text and CST. We are thinking 3-5 words to focus on for each concept.

Example: For today’s lesson, we could have emphasized *slope*, *axis*, *graph*, and *interpret*.